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(71) Applicant (for all designated States except US): SPE-  
CIALITEITEN B.V. [NL/NL]; Nieuwstraat 53/55, NL-5683  
KB Best (NL).

(72) Inventor; and

(75) Inventor/Applicant (for US only): VAN ALPHEN, Johannes,  
Wilhelmus, Gerardus, Franciscus [NL/NL]; Nieuwstraat  
53/55, NL-5683 KB Best (NL).

(74) Agent: TIMMERMANS, Antonius, Cornelis, Theodorus; Oc-  
trooibureau Zuid, Bureau voor Merken en Modellen B.V.,  
Postbus 2287, NL-5600 CG Eindhoven (NL).

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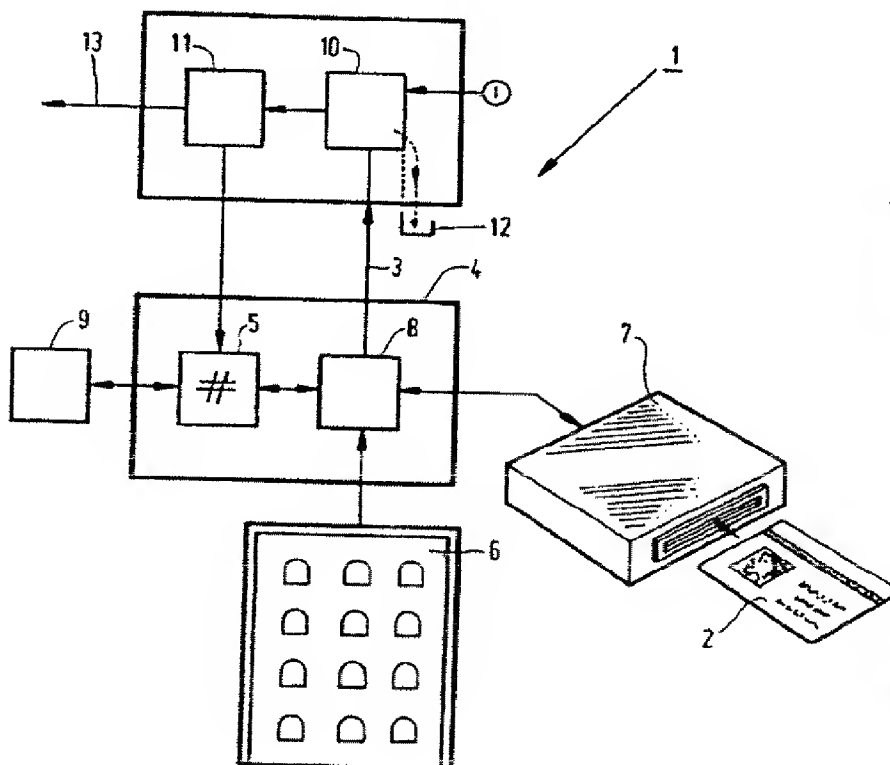
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(54) Title: METHOD AND ARCADE GAME SYSTEM WITH IDENTIFICATION CODE

## (57) Abstract

An arcade game system comprises an arcade game for gambling or game-of-skill games and a to-be-issued playing authorisation card (2), upon which authorisation card, among other things, a player identification code is recorded. The arcade game is equipped with authorisation means (1) for the provision of the possibility of playing on the system. The authorisation means contain an identification device (4) and an input organ (6) connected to said identification device for the inputting of a personal code determined on the basis of, for example, a player's fingerprints, and the system is equipped with a playing authorisation card read-out device (7) and a comparison organ (8), whereby the code contained in the authorisation card and the typed-in code are compared in the comparison organ. Upon a noted correspondence, and, if desired, subsequent to a checking and registration of an inserted unit of money, a release signal is asserted. The authorisation means (1) contain a memory for the storage of statistical and checking details, in addition to details with respect to the turnover and profit generated through the operation of the arcade game.



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Title: Method and arcade game system with identification code.

Description

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The current invention pertains to a method whereby the possibility is created to play on an arcade game, whereby an identification code allocated to a player is applied to or in the arcade game, and whereby information is read from an information  
10 carrier such as a playing authorisation card and compared to the identification code, whereby, upon an observed agreement, the possibility of playing is provided.

The invention further pertains to an arcade game system for gambling in particular, which arcade game system is equipped with  
15 authorisation means for the provision of the possibility of playing on the arcade game.

Such an arcade game system, which in general is composed of arcade games that are erected in facilities that are easily accessible to a wide-range public, is generally known. The method  
20 is also known by which means it is made possible to play on the arcade game. In general, money or tokens which must be purchased are inserted in the machine, whereupon the game can be started.

The machines are erected in a large number of establishments, such as eating and drinking places, canteens, game halls, club  
25 and community centres, and the like. Generally, the form, colour and audio-visual characteristics of the arcade games are such that interest is generated and curiosity is aroused, which leads to a situation whereby in addition to a majority of young people who sometimes play on them, youths under the age of 16 to 18 also  
30 play, as does a relatively small group of people for whom playing would seem to have become an addiction and who gamble very large amounts of money in this way.

In order to eliminate the negative effects of playing by the aforementioned youth and to protect them to some extent in the  
35 interests of public welfare, their playing is sometimes rigorously forbidden by resolutions of local government.

The checking of the compliance with these resolutions is, however, less than ideal and the side effects of that are in

keeping. Additionally, the group of addicted gamblers often becomes isolated and degenerates into a state of social deprivation, which situation contributes to a bad image for the industry in question.

- 5 It is the aim of the current invention to reverse the disadvantageous development just discussed, in a manner in which the accessibility of the machines is not substantially lowered, at least not for persons for which such machines are intended.

To this end, the method in accordance with the invention is  
10 characterised in that the information read from the information carrier contains body-dependent characteristics of the player.

The advantage of the method according to the invention is that, by means of allocating or not allocating an individual identification code and/or information carrier to a particular  
15 player, the group of people authorised to play on the arcade game can be influenced. The use of body-dependent characteristics ensures that it is impossible to commit fraud with the playing authorisation cards, by, for example, giving an authorisation card to somebody else.

- 20 An example embodiment of a method according to the invention is characterised in that the method contains a step involving the recording of information relating to the blood vessels in a player's hand and a further step whereby the recorded information is compared with information read from the information carrier.

- 25 Another example embodiment of a method according to the invention is characterised in that the identification code allocated to the player is determined on the basis of his fingerprint or otherwise on the basis of a scan of his eye.

In particular, an identification code is only allocated to a  
30 player if he complies with a set of criteria which may be chosen at will.

These criteria can be related to, for example, the age of the player. In general, this age is stipulated by the government in conjunction with the Vereniging Automatenhandel Nederland in  
35 such a manner that the real danger to the youth is minimal.

In the method according to the invention, the arcade game preferably keeps a record of the number of games played per allocated code.

The advantage thereof is that, if desired per geographical region, a feeling can be provided for the actual numbers of playing persons and the number of games per code, so that these factors can be taken into account if desired in allocating the individual code, or otherwise by the authorisation-card issuing authorities.

In accordance with a further embodiment, playing on the arcade game becomes impossible after exceeding a maximum number of games.

10 In a further embodiment of the method according to the invention, statistical details and checking details are stored in the arcade game and/or the playing authorisation card, which details are perceived as being important for the allocation of the individual code to a particular player.

15 With respect to the storing of statistical details, in addition to details concerning the game, one can think of details particular to a particular industry, details pertaining to the class and type of arcade game, details with respect to the location thereof, the number of tokens inserted in a particular  
20 period, and the cumulative total time in a particular period during which was played, etc.

According to the invention, the arcade game system is characterised in that the authorisation means contain a series circuit of the identification device and coin counting/selection  
25 means, and that upon positive identification and checking and registration of the coin unit in question, the arcade game is released for a game.

Such an embodiment of the system according to the invention has the advantage that it is easily implemented.

30 In a further embodiment of the arcade game system according to the invention, said embodiment is characterised in that the identification device and/or the information carrier (playing authorisation card) contains a memory, within which memory for every individual identification code details concerning for  
35 example the number of games, the outcome of the game, the number of coins inserted, the duration, the time of day and the like are stored.

In a further embodiment, the arcade game is preferably

equipped with display and output means, whereby these details are made available to the organisation issuing identification codes, in addition to for example the organisation issuing permits. The details can be separately read on a per arcade-game basis, although it is also possible to couple a group of arcade games with a central processing device so that the details are centrally available.

The arcade game system according to the invention is preferably embodied in such a manner that the result of reading and comparing details can be such that the arcade game does not return the playing authorisation card before or after completion of the game.

In this manner the possibility is created to prevent malversation and fraud with the playing authorisation card and the details which it contains. In particular, a player can be prohibited from playing. For example, as a result of spending more than a certain amount of money on played games within a certain period of time.

In a particular embodiment the playing authorisation card is embodied as a so-called "Smart-Card" (IC-card), whereby the desired details are stored on the card itself.

In such an embodiment, upon returning the authorisation card or exchanging it, the details are read out and the authorisation card can be made suitable for re-use.

Additionally, in a further embodiment the authorisation device can be arranged in such a manner that the arcade game is not activated on the basis of the details read from the card (such as for example upon exceeding the maximum allowed coin-insertion or playing time).

If desired, in order to prevent that incorrect details are imparted intentionally or otherwise to the tax authorities, for example, the arcade game or, if desired, a group of arcade games, can be equipped with a special memory which can be connected to the coin counting/selection means in the machines so that the turnover and/or yield realised in this manner can be registered in a reliable and verifiable manner.

An embodiment-example of the arcade game system according to the invention is characterised in that the authorisation means

contain a series circuit of the identification device and coin counting/selection means, and that upon positive identification and checking and registration of the coin unit in question, the arcade game is released for a game.

5 The invention will be further elucidated together with its pertaining advantages on the basis of the accompanying figures, within which:

Figure 1 is an embodiment-example of the system in accordance with the invention; and

10 Figure 2 is an embodiment-example of a non fraud-sensitive counter.

In figure 1, authorisation means 1 and a playing authorisation card 2 of a non-depicted arcade game system are depicted. The authorisation means 1 contain an output 3 at which an authorisation or approval signal can be generated in a manner which  
15 will be elucidated in the hereinafter, which signal serves as a basis, together with another signal that is generated by generally known means in the machine subsequent to the insertion of a coin or other token, for the preparing of the arcade game or  
20 gambling machine for the act of playing.

The authorisation means 1 contain an identification device 4 that in general is equipped with a memory 5, as also an input organ 6 connected to the identification means 4, and a playing authorisation card read-out device 7 which is also connected to  
25 the identification means 4, facilitative to the playing authorisation card 2 which is to be inserted in the device 7.

Furthermore, the identification means 4 contains a comparing organ 8. In general, an input/output organ 9 will be connected to the memory 5 in order that the details stored in the memory 5 can  
30 be read-out, or otherwise so that new details can be entered into the memory.

The method whereby it becomes possible to play on the arcade game can be according to the following example. Assuming the trusted system as basis, whereby a coin is inserted in the arcade  
35 game in order to satisfy the first requirement for the releasing of the arcade game for playing purposes, a second requirement for release is that a release signal is generated at the output 3 by the identification device 4. Prior to the issuing of the playing

authorisation card 2, said playing authorisation card 2 has been imparted with information, for example by mechanical means through the application of one or more cut-out notches on the circumference of the playing authorisation card 2, or through the use of a barcode or through the use of a magnetic strip, or by other means, wherein at a minimum, a player identification is comprised. The playing authorisation card 2 is inserted in the read-out device 7 and has its contents read. At a minimum, the player identification code which is read in this manner is applied to the identification device 4, and when the player has typed or otherwise entered his personally allocated identification code, a comparison of both codes occurs in the comparison organ 8. For that matter, if desired the entry of the identification code can occur with the aid of an input organ 6 embodied as a fingerprint reader. It is obvious that every player carries a unique identifying means with him everywhere he goes in the form of his fingerprints. In that case, the reader converts the electronic fingerprint signal to a certain code which is subsequently fed to the comparison organ 8. The input organ 6 can naturally (also) include a keyboard, but this is not strictly necessary. As an alternative, other bodily characteristics can be thought of as candidates for unique identification means. As an example, think of a reading of the iris of the eye of the player or his hand-geometry, or voice recognition or his typing style or other biometric (body-dependent) functions. In that case, the input organ 6 is replaced by the respective recognition device. If desired, the code can be verified in the memory 5 in order to check if the player is allowed to play at all and in order to verify if the code has indeed been entered and is available. After it has been verified in the comparison organ 8 that both codes correspond, the release signal is generated at output 3 and the player can commence playing on the arcade game.

Another example of a unique identification is the so-called vein check. This involves making a comparison between the vein structure in a hand and the information which has been recorded in an entry-card (ID-card). In this embodiment, the keyboard (input organ 6) will be embodied as a vein-check device. The advantages of this identification system include among others:



- non-invasive, socially acceptable alternative for fingerprints and iris-scan.
- fast method
- method is simple to use and discreet.
- 5 - inexpensive equipment based on a TV camera can be used.
- extremely small error/incorrect-refusal percentage.
- reference pattern is compact (approx. 400 bits) with no possibility for falsification.
- possibility to use without a card for entry-protection
- 10 applications.
- unlike other hand or finger methods, does not suffer from the presence of rings and the like on fingers.

The vein check method involves first measuring the form and size of the veins in the hand through the use of infra-red light.

15 The pattern of the "vein-tree" image is unique to such an extent that it can serve as a (unique) identification means. Subsequently, the image is compared to a stored reference pattern which is stored in or on the card, or otherwise in a (central) memory, for example. This comparison can be carried out either automatically

20 or manually. Hand-vein identification is a positive identification system which determines the individual characteristic form of the hand of the person in the pattern of the blood vessels (veins) which lie just under the surface of the skin. This pattern can be stored as a binary code of less than 70 bytes. In this manner,

25 it is possible to store this code on a magnetic ID-card, security passport or a passport with photograph.

This system contains two stages:

- the placing of the hand of the person to be controlled/checked, whereupon the front or back of the hand can be read by
- 30 an infra-red sensitive TV camera.
- the comparison and processing of the image which is thereby read.

In order to illuminate the hand, infra-red light from incandescent lamps or solid state diodes can be used. The camera receives

35 an image which depicts the hand together with the veins. Via an analog to digital converter and a memory, this image is applied to a computer for further processing. With the aid of a computer program (compression) for example, the image is compressed to

approximately 1000 bytes or 70 bytes, depending on the application.

If desired, other details can also be read from the card, such as for example an organisation-specific identification. These 5 details can potentially also be coupled, together with other details such as the type of arcade game, the time at which the game occurs, the duration of the game, the amount of money won or lost, etc, in the memory 5, which details can, if so required, be read with the aid of organ 9. Via the organ 9, which can be 10 connected to a central processing unit if necessary, information can be stored in memory 5 at will regarding for example new codes which are as yet to be entered.

Depending upon the type of playing authorisation card 2 which is to be applied, information can be supplied to the device 7, 15 which information, provided that the device 7 is thereto equipped, can be re-written back to the playing authorisation card 2. This shall then in general contain among other things a memory, within which memory a credit allocated upon issuing of the identification card 2 can be adjusted. In an embodiment whereby the 20 playing authorisation card has an (electronic) memory, such as is the case with a smartcard, these details can be used to decide if the game can be re-played in the same or in another period on any randomly chosen arcade game.

Another usage-form is a system of deduction with respect to a 25 prior decided value. This deduction can occur in a destructive manner, whereby for example a certain portion of the card is etched away by burning, but the deduction can also of course occur in a non-destructive manner whereby the information in question is modified in the indicated manner. When the entire 30 credit in the playing authorisation card 2 is exhausted, then the card will have to be refreshed and it shall be returned to the issuing authority to be refreshed upon payment of an agreed monetary consideration, so that the player can again use the card. The advantage of this approach is that in this manner a 35 grip is held on the group of playing persons in principle, whereby the basis is laid to reject possible problem groups through a refusal to issue identification cards, or otherwise, if gambling addiction is suspected, the possibility of social contact with

the player is provided when the authorisation card is issued. In this manner, a path is laid to an aid organisation for compulsive gamblers.

In an embodiment further elucidated in figure 1 the output 3 of a coin selector 10 is connected to a coin counter 11. Coins can be inserted in the coin selector, which coins are only accepted and not returned in a returned-coins container 12 provided that a release signal is present on output 3. In that case, a signal is applied to counter 11 to enable counting of the coin 10 and the arcade game is definitively released to the player by the generation of a signal on the output 13. The counting of the coin is noted in a generally selected memory which in this way keeps track of the turn-over generated with the arcade game. In a further embodiment, a signal generated in the arcade game can be 15 processed in the coin counter 11, which signal drives a winnings pay-out device. On the basis of these signals, the details can be processed in such a manner that the exact yield of the arcade game in a particular period can be determined. In the depicted embodiment the counter 11 provides this information to (a portion 20 of) the memory 5, which memory 5 can be regularly read if desired for the purposes of making tax-returns in a proper manner and on the basis of details with a high likelihood of correctness. It goes without saying that the date and time can be securely stored in the memory through the use of, among other possibilities, a 25 real-time clock in the system.

Figure 2 shows the fraud-insensitive coin counting/selection means in more detail. Each arcade game is equipped with a device which intercepts the inserted coins and judges them. This coin "selector" 21 checks initially if an inserted coin matches a 30 certain number of specific characteristic criteria and compares the measured values with the pre-programmed ones. A coin which does not measure up to the pre-determined criteria is returned to the customer and cannot be used to play on the machine. Coins which do make the grade are selected on the basis of their value 35 and are taken in. The value of the coin is then translated to a related number of points (credit) with which can be played.

For each accepted coin, the coin selector shall assert an electric signal to the so-called mother board 23 in the arcade

game, at which location the value-to-credit calculation is made. The relevant data are signalled to the user by a display located in the machine.

The principle of the counter 25 is such that the signals emanating from the coin selector are intercepted before they are passed on to the mother board. Each and every inserted and accepted coin can be counted in this way, whereby a registration of the counting is maintained and updated in a memory integrated in the counter.

10 All signals emanating from the coin selector 21 (and therefore also the signals which are not used by the counter) are routed via the counter. This is one of the ways in which malversations can be prevented, such as those malversations involving the creation of signal diversions. The counter is preferably housed  
15 in the same housing as the Play Safe Unit (the device for the prevention of addiction, as depicted in figure 1, authorisation means 1) and is inaccessible from the outside world. Furthermore, all malversations and/or manipulations with the total-counter or with the connecting cables are registered in the memory.

20 A total counter can be implemented both separately from a "Play Safe Unit" and as an integrated part of it. For both situations, however, a number of criteria apply, such as will be named in the hereinafter and which should be regarded as falling within the protective scope of the present patent application (as an example  
25 of an embodiment).

A total counter system, as described, can be viewed as a separate unit suited only to the goal in question. The possibility also exists, however, to embody an integrated implementation, which inherently prevents minors from playing on the machine,  
30 whereby (youth) gambling addiction has a lesser chance of occurring and the related negative consequences on the social, financial and criminal fronts are reduced.

A number of criteria, boundary conditions and techniques form the basis on which a total counter should be founded:

35 1. Only an authorised instance can and may read and analyse or process the details contained in the counter. As an example, this instance could be a division of the tax authorities. Through the use of the application of a number of "safety" levels, it can

be assessed if the operator and/or caretaker should be allowed a limited degree of access to the details.

2. A total counter shall be an autonomous calibrated unit indissolubly (meaning not being capable of manipulation in a mechanical and/or electrical manner) connected to the arcade game, which should be built in to every approved arcade game installed in the Netherlands by a certified establishment. This unit may have no effect whatsoever on the playing-behaviour of the arcade game or conflict in any manner with any lawful pre-  
10 scriptions with respect to gambling machines. In order to be implemented in the approximately 50,000 gambling machines currently in use in the Netherlands and possibly in the 20,000 games of skill, it shall be required to be a separate unit which is not integrated with the mother board. A direct relationship will be  
15 required between the counter and a machine (and therefore also with the owner/operator).

3. The memory shall be required to maintain a complete electronic administration, whereby on a per-day basis with date-code an indication is given of how many coins of each individual type  
20 have been received and paid out. By means of a status code (comment) with time-of-day indication, an indication must be provided of what is happening with the machine in question if some form of interrupt occurs (power-cut or switch-off, malversation, etc).

4. Malversation with the unit or with the connection between  
25 the unit and the remaining parts of the machine should instantly result in the switching off of the machine with a status registration to the fixed and the mobile memory. Upon confirmation that such a code has been generated, a sanction will have to occur with respect to both the caretaker and the operator.

30 5. From the point of fitting onwards, the certified instance shall press a "start" button to initiate the unit and start the timer "running". Stopping of the counter can only be done by the aforementioned instance.

6. The unit shall require a connection point for a hand-held  
35 terminal (connector or optical coupling) with which the authorised instance can read the counter values and codes, etc. Through the use of this terminal and a personal code, which code can be fixed in a chip-card, for example, only an authorised official is

capable of "resetting" the counter. The details stored in the memory of the terminal can be read either directly or via a modem in the central processing unit of the instance.

7. At the moment of first-use of the machine by the caretaker, the latter shall enter his personal chip-card(s) and code(s), whereby the counter is activated and counting details including status codes are registered on his card(s). Upon switching off and removal of the machine, the opposite occurs. All of this occurs with an indication code in the fixed memory.

8. Because the caretaker is confronted with (possibly several) machines which can be swapped during the period of measurement, he shall require a chip-card with unique personal code for each of these machines. The number of authorised machines shall be evident from the permits issued. The chip card shall be equipped with a memory which is protected through the application of various safety levels. All chip cards in his possession will be read by the authorised instance at the end of the measurement period, whereby each card must contain a complete administration made during the entire measurement period. Those periods not registered on a certain card must be accounted for by the caretaker. Heavy penalties must be imposed for incomplete accounting of the missing periods. By comparing the details which are read by the (tax) authorities with the hand-held terminal (which contain a registration per machine and therefore also per operator) and those details emanating from the reading of the chip cards (which contain a registration per caretaker) it can be ascertained if discrepancies occur in the returns.

9. The unit must be equipped with a device with which the operator and/or caretaker can make known to the unit that the arcade game is to be switched off for purposes of repair and/or exchange. In addition to the status code which indicates that the mains supply is switched off (which code is automatically generated), a code is added to announce this operation. However, the counter remains functioning as a result of its having its own battery supply, and therefore registers whether coins have been inserted in a period within which this should have not been allowed.

10. The unit shall be supplied with electricity by the power

supply present in the arcade game. For memory back-up purposes, the unit is equipped with a battery which can be replaced by the caretaker, and the unit shall provide a "low-batt" indication to the outside world when battery replacement becomes desirable.

5 Replacement must then occur within a period of 2 days, for example, during which period a non-replaceable lithium cell supports the power requirements of the memory. Thereafter, the unit is switched off with an indication code in the memory. The arcade game can then only be revitalised by an authorised official.

10 11. The unit shall be required to comply with all European guidelines in the area of radiation generation and absorption, electro-magnetic compatibility (EMC) and all prescriptions stipulated by law or guiding-principle (in the Netherlands) for electronic equipment.

15 The counter's memory consists of (among other things) a so-called chip card 27, upon which on a per-day basis (with time indication) the number of accepted coins per coin-type is registered. The chip card is coupled indissolubly by means of a code to a gambling machine and shall therefore always contain a complete administration which spans an entire year. Switching off of  
20 the mains supply 29, or loss of power, are events which are registered with time indication in the card. An internal battery with a so-called "watch-dog" ensures that the registration is maintained in a trustworthy manner.

25 Another integrated circuit 31 can ensure that malversations are punished. For example, if the chip card is removed from the holder, if the incorrect combination of chip card and related code is entered, if cables are disconnected, etc, then this circuit will ensure that the arcade game will accept no more  
30 coins and that it is thereby no longer suitable for playing operation. In combined usage, the circuit already included in the Play Safe Unit can be used for the purposes of switch-off, or, if this circuit is not present, use can be made of a device separately included in the counter. The integrated device 31  
35 (for example a memory with microprocessor) also receives signals from, for example, a money pay-out system 33.

The counter cannot be reached from the outside world. The counter is preferably housed in the plate-steel housing of the

Play Safe Unit, which housing is anchored to the arcade game. In this manner, the chip card can only be reached from the inside of the machine. In order to prevent persons having access to the machine's internals from being able to remove the chip card,  
 5 said chip card is sealed to the unit by means of a mechanical (lock) security mechanism.

The chip card can only be removed without hindering the functioning of the machine upon entering of the correct code, which code is known only to authorised persons. All other actions shall  
 10 ensure that the machine is rendered out of order !

An overview will eventually accumulate on the chip card, whereby a record on a per-day basis of the number of coins of each type which have been accepted shall exist. For a correct registration of the income, it is necessary to subtract the amount  
 15 paid-out in the form of winnings. This can be included in the circuit, but this will complicate the circuit and therefore make it more expensive. It is better to subtract a fixed percentage for this purpose - the so-called pay-out percentage. All gambling machines are tested on this basis and may only be placed  
 20 and used for gambling if approved on these grounds.

The overview can be schematically depicted as follows:

coin 1	coin 2	coin 3	coin 4	comments	date
.....	.....	.....	.....	.....	....
.....	.....	.....	.....	.....	....
25 .....	.....	.....	.....	.....	....
.....	.....	.....	.....	.....	....
.....	.....	.....	.....	.....	....
<hr/>					
total	total	total	total		year

30

The commentary indicates among other things when it was not possible to play on the gambling machine because of a power-cut, for example. For the comments, a number of codes will be decided and shown, which codes reflect certain situations.

35 If desired, the authorisation means 1 in the arcade game system can be arranged in such a manner that during a certain period subsequent to the insertion of a coin by a particular player, which period can be determined by the authorising authority,



further insertion of money for the purposes of enabling additional games is not possible. At a certain later stage, for example, it can become possible for the player to commence a new game. It is obvious that, given the technical capabilities of the system, 5 variations on this theme can be easily embodied in the system.

The advantage of the system in question is that it is well-adapted to the reality of current usage of arcade games and its degree of acceptance is very high indeed. It should be clear that, within the spirit of the system described in the aforementioned, 10 variants with respect to the arrangement of the system within the limits of protection are included in the following claims.

## C L A I M S

1. Method whereby the possibility is created to play on an arcade game, whereby an identification code allocated to a player is applied to or in the arcade game, and whereby information is read from an information carrier such as a playing authorisation card and compared to the identification code, whereby, upon an observed agreement, the possibility of playing is provided, characterised in that the information read from the information carrier contains body-dependent characteristics of the player.

2. Method according to claim 1, characterised in that the method contains a stage where the information concerning blood vessels in a hand of the player are recorded, which information is compared in a subsequent stage to the recorded information in the information carrier.

3. Method according to claim 1, characterised in that the identifying code allocated to the player is determined on the basis of his fingerprint or on the basis of a scan of his eye or his hand-geometry, or voice recognition or his typing style or other biometric functions.

4. Arcade game system for gambling or game-of-skill usage, equipped with authorisation means for the provision of the possibility of playing on the system, characterised in that the authorisation means contain a series circuit of the identification device and coin counting/selection means, and that upon positive identification and checking and registration of the coin unit in question, the arcade game is released for a game.

5. System according to claim 4, characterised in that the coin counting/selection means are connected to a memory, within which memory details concerning the number of counted monetary units used for playing on the system are stored.

6. System according to claim 5, characterised in that the memory is situated in a mobile data-carrier such as a smart card, within which mobile data-carrier a unique code is stored, which code is related to a code stored in the arcade game, and which code can only be read and processed by authorised instances/persons, such as the tax authorities.

7. System according to one of the claims 4, 5, or 6, character-

rised in that the coin counting means are contained in the arcade game.

8. System according to one of the claims 4, 5, 6, or 7, characterised in that means are contained in the arcade game for the purposes of using a winning's pay-out signal for assisting in the gathering of statistical details, so that in addition to the turnover which has been realised, the profit can be registered.

9. Arcade game system for gambling or game-of-skill usage, equipped with authorisation means for the provision of the possibility of playing on the system, whereby the authorisation means contain an identification device, and an input organ connected to the identification device for the inputting of a player identification code, the authorisation means containing a playing authorisation card read-out device in addition to a comparison organ for comparing the entered code and, after apparent correspondence, assertion of a playing authorisation signal, characterised in that the authorisation means contain a series circuit of the identification device and coin counting/selection means, and that upon positive identification and checking and registration of the coin unit in question, the arcade game is released for a game.

10. System according to one of the claims 7-9, characterised in that the arcade game is arranged in such a manner that the result of the read-out and comparison of details is that the playing authorisation card is not returned by the arcade game subsequent to a game.

11. System according to one of the claims 7-10, characterised in that the playing authorisation card is embodied as a "smart card", whereby desired details can both be read from the card and written to the card.

12. System according to one of the claims 7-11, characterised in that the authorisation means contain a series circuit of the identification device and coin counting/selection means, and that upon positive identification and checking and registration of the coin unit in question, the arcade game is released for a game.

13. System according to claim 12, characterised in that the coin counting/selection means are connected to a memory, within which memory details concerning the number of counted monetary

units used for playing on the system are stored.

14. System according to claim 13, characterised in that the memory is situated in a mobile data-carrier such as a "smart card", within which mobile data-carrier a unique code is stored, 5 which code is related to a code stored in the arcade game, and which code can only be read and processed by authorised instances/persons, such as the tax authorities. Read-out of the smart card or memory card can occur, but also via an external connection from the fixed (built-in) memory. To this end, the authorised 10 official connects a hand-held terminal (data-collector), for example, and enters his unique entry code with which he is provided access to the memory. In an integrated application, use can be made of the verification means and techniques present in the Play Safe Unit.

15 15. System according to one of the claims 12-14, characterised in that the coin counting means are contained in the arcade game.

16. System according to one of the claims 12-15, characterised in that means are contained in the arcade game for the purposes of using a winning's pay-out signal for assisting in the gather- 20 ing of statistical details, so that in addition to the turnover which has been realised, the profit can be registered.

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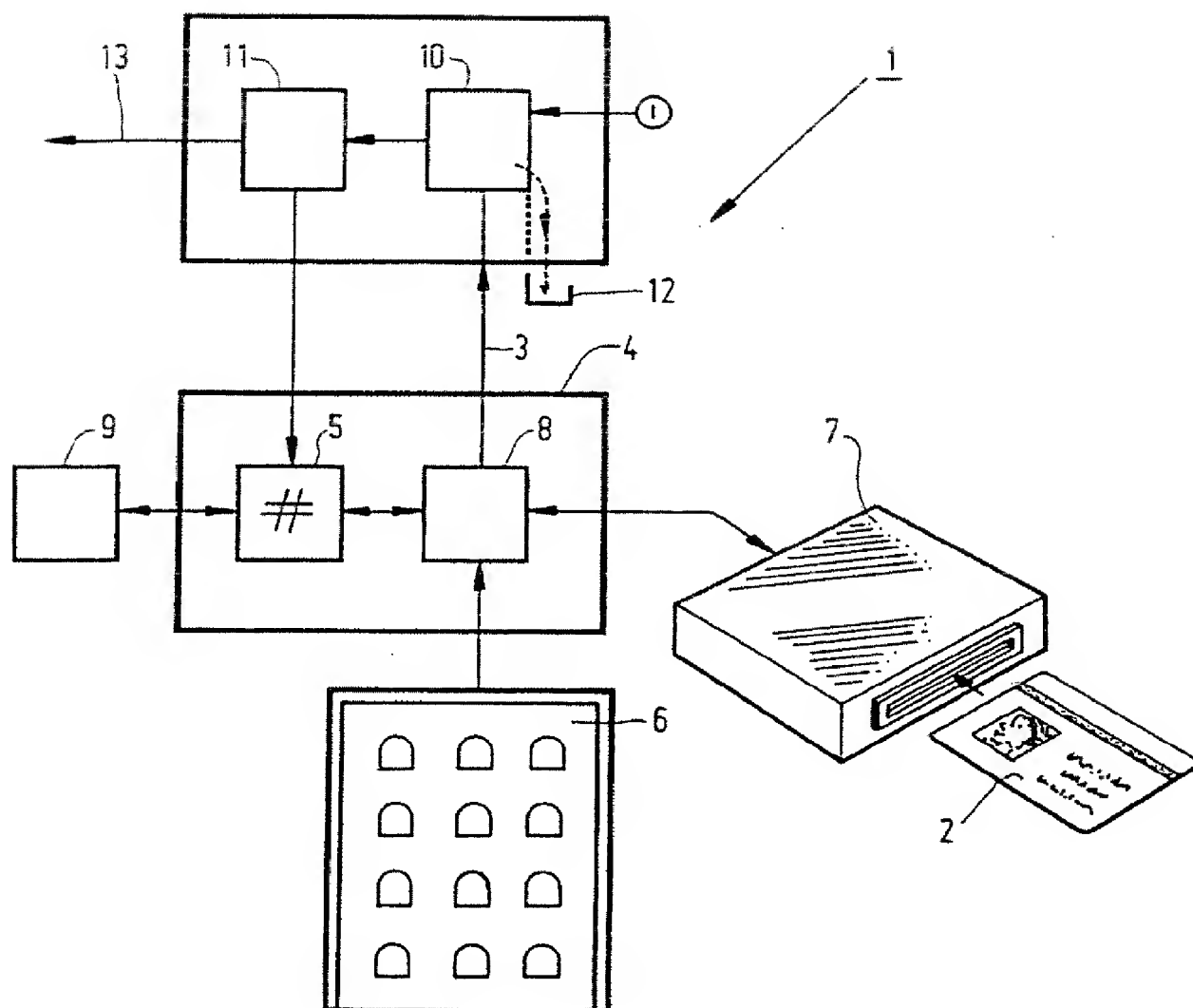


FIG. 1

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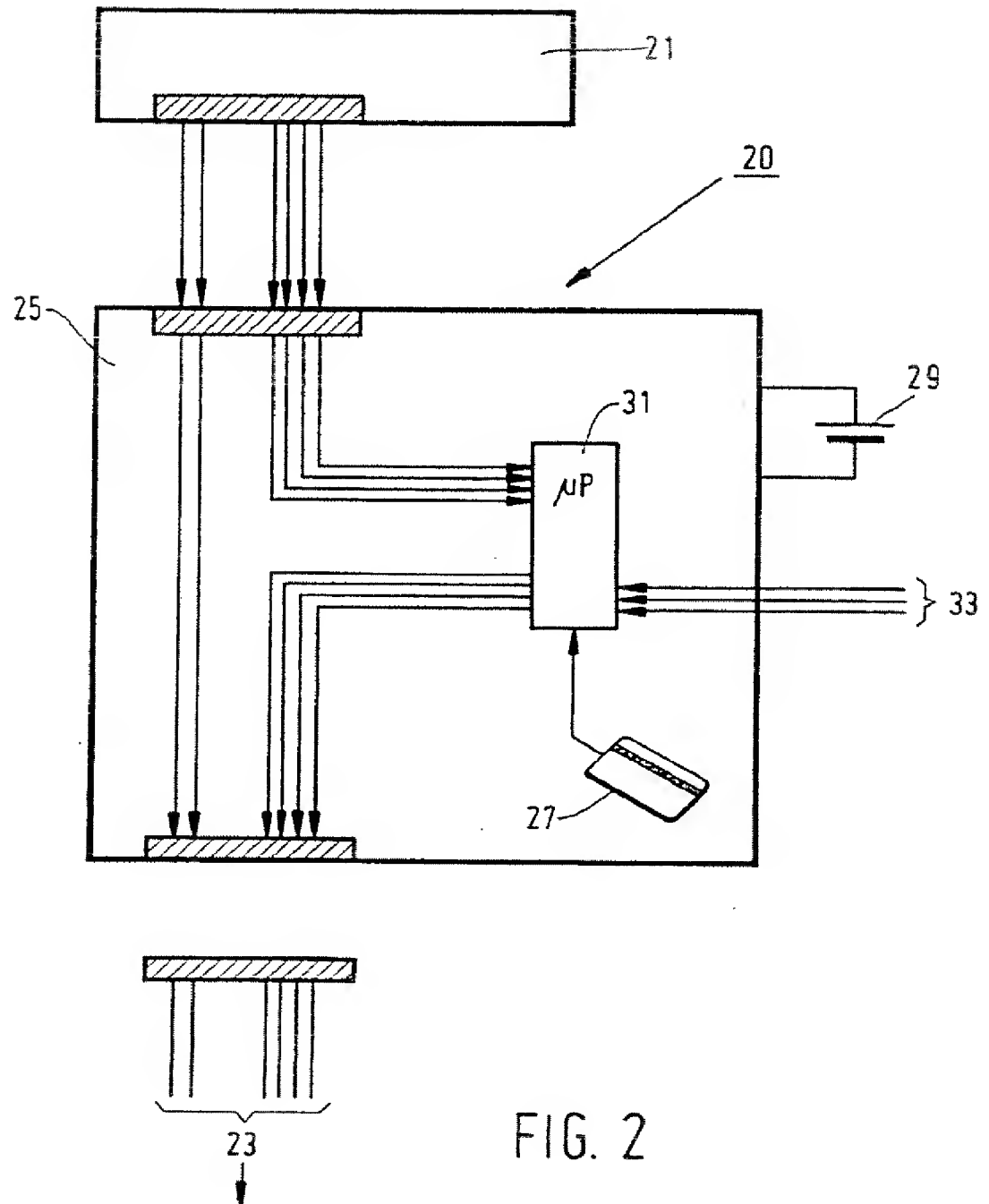


FIG. 2

## INTERNATIONAL SEARCH REPORT

Inter national Application No

PCT/NL 94/00004

A. CLASSIFICATION OF SUBJECT MATTER  
 IPC 5 G07F17/32 G07C9/00 G07F7/10

According to International Patent Classification (IPC) or to both national classification and IPC

## B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)  
 IPC 5 G07F G07C

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

## C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	GB,A,2 181 582 (V.C. BLACKWELL) 23 April 1987 see abstract; claims; figures 2,4 see page 1, line 66 - line 115	1,4,9-12
A	---	3
Y	EP,A,0 360 613 (BALLY) 28 March 1990 see abstract; claims; figures see column 6, line 24 - column 11, line 9	1,4,9-12
A	---	5-8, 13-16
A	EP,A,0 499 315 (JAC VAN HAM NEDERLAND) 19 August 1992	1,4-9, 13-16
A	WO,A,91 09369 (J.L. LUCERO) 27 June 1991 -/--	

☒ Further documents are listed in the continuation of box C.

☒ Patent family members are listed in annex.

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Date of the actual completion of the international search

10 May 1994

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Name and mailing address of the ISA

European Patent Office, P.B. 5818 Patentlaan 2  
 NL - 2280 HV Rijswijk  
 Tel. (+31-70) 340-2040, Tx. 31 651 epo nl,  
 Fax (+31-70) 340-3016

Authorized officer

David, J

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## C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	GB,A,2 207 268 (COINMASTER) 25 January 1989 ---	
A	GB,A,1 558 521 (BELL-FRUIT) 3 January 1980 ---	
A	EP,A,0 051 579 (MOTRONIC) 12 May 1982 ---	
A	US,A,4 993 068 (G.V. PIOSENKA) 12 February 1991 ---	
A	DE,A,38 02 186 (NSM-APPARATEBAU) 11 May 1989 -----	

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# INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No.

PCT/NL 94/00004

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
GB-A-2181582	23-04-87	AU-A- 6476786	05-05-87
		EP-A- 0241504	21-10-87
		WO-A- 8702491	23-04-87
EP-A-0360613	28-03-90	US-A- 5179517	12-01-93
		AU-B- 613484	01-08-91
		AU-A- 3450489	29-03-90
EP-A-0499315	19-08-92	NL-A- 9100256	01-09-92
WO-A-9109369	27-06-91	US-A- 5038022	06-08-91
		AU-B- 640446	26-08-93
		AU-A- 7078091	18-07-91
		EP-A- 0506873	07-10-92
		NZ-A- 236562	23-12-93
GB-A-2207268	25-01-89	NONE	
GB-A-1558521	03-01-80	AU-B- 507730	28-02-80
		AU-A- 3271478	02-08-79
		AU-B- 511904	11-09-80
		AU-A- 3271578	02-08-79
		CA-A- 1114065	08-12-81
		CA-A- 1112766	17-11-81
		DE-A- 2803214	27-07-78
		DE-A- 2803215	27-07-78
		NL-A- 7800837	27-07-78
		NL-A- 7800838	27-07-78
EP-A-0051579	12-05-82	AT-A, B 369175	10-12-82
US-A-4993068	12-02-91	NONE	
DE-A-3802186	11-05-89	NONE	